

Caldera Properties - Long Neck I, L.L.C.

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August 17, 2005

Ms. Constance C. Holland, AICP, Director
The Delaware Office of State Planning Coordination
540 S. DuPont Highway, Thomas Collins Building, 3rd Floor
Dover, Delaware 19901

RE: Moore Farm – Response to PLUS Review #2004-08-07 comments

Dear Ms. Holland:

Thank you for your letter of September 10, 2004 containing the comments from State Agencies regarding the Moore Farm Conceptual Development Plan.

Our response to State Agency comments are as follows:

Office of State Planning Coordination – Contact: Ann Marine Townshend 739-3090.

The Office of State Planning Coordination notes that this project is located within primarily an “Investment Level 3” area with a small portion on the western corners of the site in the “Investment Level 2” area according to the draft 2004 update of the Strategies for State Policies and Spending. The Strategies update has been endorsed by the Cabinet Committee on State Planning Issues and is currently awaiting final approval by Governor Minner. Investment Level 3 areas often reflect long-term growth areas or other growth areas that have may environmental and/or agricultural issues on or around the site. The site’s proximity to Emily Gut and the associated forests and wetlands are factors. The project is also located within the Environmentally Sensitive Development District according to the 2003 Sussex County Comprehensive Plan.

The project’s design includes several of the components encouraged in the State’s new publication *Better Models for Development in Delaware*. It includes a variety of open space, including tot lots and other active recreation amenities. The street layout shown provides for a smooth traffic flow within the project. Based on the project’s location within the Environmentally Sensitive Development District in an area adjacent to Emily Gut, wetlands and upland forests, we strongly recommend that the developer go even further in pursuing a more environmentally sensitive design by amending the project design to incorporate State agency comments. Specifically, preservation of the forested areas, a stub street to the parcel to the south, buffers along the wetlands and stream, and incorporation of green stormwater management technologies would help create a stronger environmentally friendly design. We discourage clearing forested areas to create a stormwater pond.

Response:

We concur that the proposed development resides primarily in the Investment Level 3 Area, with minor portions falling in the Investment Level 2 Area. Prior to establishing a site design, an inventory of all environmental features (including wetlands, forests, topographic features, archeological features, adjacent usage, etc.) was performed. Utilizing this information, a site design was established which results in no impacts to the wetlands along Emily's Gut, and the preservation of the majority of the forest along the Emily gut stream valley (we will also work with the Sussex Conservation District to reduce the required pond size to allow more trees to be saved).

State Historic Preservation Office (SHPO) – Contact: Anne McCleave 739-5685

There is an old structure on the subject property that will be demolished for this project. The SHPO does not have any information on this structure and outbuildings, if any exist. The SHPO would very much appreciate it if the developers or applicant would call Anne McCleave 302-739-5685 and allow her access to the property in order to document the structure(s) before demolition. This will provide their office with an architectural survey and inventory of the property before its historic context is gone.

There is also an archaeological site on the east side of the subject property. It is recommended that the development stay out of the wooded area and provide a buffer between the development and wooded area. When the applicant or developers allow Ms. McCleave access to the property, they also ask that some archaeologists from SHPO be allowed to walk the property to better understand the known archaeological site and any development to avoid the sites or minimize any harm to the sites.

Response:

A preliminary Cultural Resources Analysis has been performed by Mr. Edward Otter, PhD. Following all plan approvals, and prior to any demolition or construction activities, we will work with SHPO to allow them to access the site to study the existing home and archeology site.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) The PLUS materials submitted by the applicant state "Del Dot required no traffic impact study (TIS)." On July 10, 2004, DelDOT sent Sussex County a Support Facilities Report indicating that a TIS was necessary. DelDOT made this determination based on the facts that this project would come close to meeting their Average Daily Traffic warrant and that it would directly impact the seasonally congested intersection of Delaware Route 24 and Oak Orchard Road.

Because this was the last week of the year that summer traffic counts could be performed, it is recommended that the developer have a traffic engineer obtain turning movement counts at the intersection of Oak Orchard Road and Chief Road (Sussex Road 311) Saturday from 9:00 a.m. to 5:00 p.m. DelDOT and the

engineer can discuss the scope of the study at a later date. Apart from the site entrance and the Route 24 intersection, the Chief Road intersection is the only intersection that DelDOT anticipates including in the study and a TIS for another development has already counted the Route 24 intersection.

Response:

Upon receipt of your letter, we directed our traffic engineers, Orth Rodgers & Associates, to count traffic at the specified intersection, and they have also prepared the required TIS and the Final TIS report is under final review with an anticipated approval date of mid-August.

- 2) Immediately south of this parcel, behind the Orchard Manor development, the 49-acre Charles Clark property appears to be developable. DelDOT asks that a stub street be provided to connect to it.

Response:

Should the Sussex County Planning Commission approve our proposed development plan, we propose to work with DelDOT and Sussex County to explore the possibility of an inter-parcel connector to the 49-acre parcel owned by Mr. Clark.

- 3) DelDOT noted that they agree with the comments made by Mr. Robert Eherrmann from the Division of Parks and Recreation at the August 24, 2004 meeting that a path or sidewalk should be provided along the Oak Orchard Road frontage.

Response:

We concur, and will incorporate the requested path or sidewalk into the ultimate frontage improvements for the development.

- 4) The developer's site engineer should contact the DelDOT Subdivision Manager for Sussex County, Mr. John Fiori, regarding their requirements with regard to the design of the site entrance. Mr. Fiori may be reached at (302) 760-2260.

Response:

We have discussed this development with Mr. Fiori who provided a few recommendations for modifications to our site entrances, traffic patterns and road alignment. We included all of his recommendations in the new design, and will continue to work with DelDOT throughout the approval process.

The Department of Natural Resources and Environmental Control – Contact: Kevin Coyle 739-3091

Soils

According to the soil survey update, Fort Mott and Broadkill mucky silt loam

were mapped in the immediate vicinity of the proposed construction. Fort Mott is well-drained upland soil that, generally, has few limitations for development. Broadkill mucky silt loam is very poorly-drained wetland associated (hydric) soil that has severe limitations for development.

Although most of the soils on subject parcel are fairly well drained, they have limitations associated with rapidly permeable sandy surface and subsurface horizons. Such soils are conducive to nutrient leaching via groundwater or surface runoff into the surrounding watershed. In soils containing shallow water tables or found in close proximity to waterbodies, these impacts are greatly intensified.

Response:

Soils

We have retained the services of a licensed geotechnical engineer who has studied the onsite soils and the proposed development plan, and feels the site may be developed as shown utilizing normal construction techniques. We will continue to coordinate with our geotechnical engineer throughout the development process.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of estuarine emergent forested wetlands along the riparian corridor bordering Emily Gut.

Although site plans do not show impacts to wetlands, the developer and County should note that impacts to these wetlands are regulated by both the DNREC Wetlands & Subaqueous Lands Section the Army Corps of Engineers through Section 404 of the Clean Water Act. In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process.

Because there is strong evidence that federally regulated wetlands exist on site, **a Wetland delineation, in accordance with the methodology established by the Corps of Engineers Wetlands Delineation Manual, (Technical Report Y-87-1) should be conducted. Once complete, this delineation should be verified by the Corps of Engineers through the Jurisdictional Determination process.**

To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-4691 to schedule a meeting.

Because this development is within the Environmentally Sensitive Developing area and due to its location on Emily Gut and adjacent to larger tracts of habitat, vegetated buffer zones of no less than 100 feet should be employed from the edge of the wetland complex.

Response:

Wetlands

All onsite wetlands, as approved by the US Army Corps of Engineers by their JD approval issued March 31, 2005, are indicated on the plans. As indicated in your comment, there are no proposed impacts to the existing wetlands. Therefore, no Federal or State Permit is required.

We have incorporated the required 50-foot buffer from tidal wetlands into the proposed site design. Buffers of greater width will be explored during the final site engineering, and will be incorporated if feasible.

Buffers

In cases where natural buffer vegetation has been removed or reduced by past development or farming activities, the developer is encouraged to restore/establish to said buffer width or greater with native herbaceous and/or woody vegetation. Additionally, the Department strongly recommends that the existing forested buffer (both wetlands and uplands) adjacent to Emily's Gut be preserved in its entirety.

Further, the Department strongly recommends that the periphery of all constructed pond(s) and/or stormwater ponds contain a minimum 50-foot buffer of native woody and/or runoff into pond(s) and thereby reduce the problems associated with nuisance algae and geese. In addition to the employ of buffers as a management tool for anticipated environmental problems in pond(s), the Department believes even more strongly in the forestalling/mitigation of future problems by urging the applicant to either reduce the size of individual ponds, or better yet, eliminate them from consideration.

Response:

Buffers

As previously mentioned, we propose to maintain the required 50-foot buffer around all tidal wetlands, and will increase this width wherever feasible and possible. Furthermore, we will coordinate with the Sussex Conservation District to limit the number of SWM ponds required on the site.

ERES Waters

This project is located adjacent to receiving water of Inland Bays designated as waters having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 11.5 of Delaware's "Surface Water Quality Standards" (as amended August 11, 1999), specify that all designated ERES waters and receiving tributaries develop a "pollution control

strategy" to reduce non-point sources of nutrient runoff through implementation of Best Management Practices (BMPs). Best Management Practices as defined in subsection 11.5(e) of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree practicable, or where attainable, a standard requiring no discharge of pollutants.

Response:

ERES Waters

Best Management Practices, as approved by DNREC, will be employed to treat the storm water run-off from the proposed community to the satisfaction of the Sussex Conservation District.

TMDL's

With the adoption of Total Maximum Daily Loads (TMDLs) as a "nutrient-runoff mitigation strategy" for reducing nutrients in the Inland Bays Watershed, reduction of nitrogen and phosphorus loading will be mandatory. A TMDL is the maximum level of pollution allowed for a given pollutant below which a "water quality limited water body" can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shellfish harvesting. Although TMDLs are authorized under federal code, states are charged with developing and implementing standards to support those desired use goals. The Jurisdictional authority for attaining these use goals will fall under the auspices of Section 11.5 of the State of Delaware's Surface Water Quality Standards (as amended August 11, 1999), and will be achieved via nutrient reductions referred to as "pollution control strategies."

Nutrient reductions prescribed under TMDLs are assigned on basis of water quality concerns- that is, the those regions deemed to be of greatest environmental concern will require correspondingly sensitive. In this watershed, these regions are demarcated as high and low reduction zones. The high reduction zone corresponds to the western portion of the watershed, and requires a reduction of nitrogen and phosphorus loading by 40 percent. **This project is proposed within the low nutrient reduction zone.**

In order for the applicant to verify compliance with the TMDL mandate, a full Nutrient accounting process known as nutrient budget should be prepared. The developer/consultant should contact Lyle Jones in the Department's Watershed Assessment Section for further information regarding the acceptable protocol for calculating a nutrient budget. He can be reached at 739-4590.

Response:

TMDL's

A nutrient budget will be prepared as a part of final engineering for the project.

Water Supply

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-3665.

Response:

Water Supply

We will obtain the appropriate permits should dewatering be required.

Water Resource Protection Areas

A portion of the site falls at least partially within a wellhead protection area for Tidewater Utilities public drinking water wells for the Meadows District (see map). Wellhead protection areas are surface and subsurface areas surrounding a public water supply well where the quantity and quality of groundwater moving toward such wells may be adversely affected by land use activities.

According to the State law that created the Source Water Protection Program, county and municipal governments will be required to enact ordinances to protect Water Resource Protection Areas. The following language has been excerpted from the draft Source Water Protection Guidance Manual for Local Governments, Supplement 1 – Ground-Water Recharge Design Methodology. While the language is currently draft and the local ordinances are not yet in place, the developer may find the language useful in modifying the site plan to protect the wellhead protection area.

Water Resource Protection Areas (WRPAs) are defined as (1) surface water areas such as floodplains, limestone aquifers, and reservoir watersheds, (2) wellhead areas, or (3) excellent recharge areas. The purpose of an impervious cover threshold is to minimize loss of recharge and protect the quality and quantity of ground and surface water supplies in WRPAs.

New development in WRPAs may exceed the 20% impervious cover threshold, but be no more than 50% impervious, provide the applicant submits an environmental assessment report recommending a climatic water budget and facilities to augment recharge. The environmental assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis.

Commonly, the applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey relatively pure rooftop runoff for infiltration to ground water.

The Department recommends the following (ranked in order of preference):

- 1) Preserve WRPAs as open space and parks by acquisition or conservation easement.
- 2) Limit impervious cover of new development to 20% by right within WRPAs.
- 3) Allow impervious cover of new development to exceed 20% within WRPAs (but no more than 50% impervious) provided the applicant develops recharge facilities that directly infiltrate rooftop runoff.
- 4) Allow impervious cover of new development to exceed 20% within WRPAs (but no more than 50% impervious) provided the applicant develops recharge facilities that infiltrate stormwater runoff from forested and/or grassed surfaces with pretreatment.

Response:

Water Resource Protection Areas

We have consulted with Tidewater Utilities Inc., to determine the exact location of their local wells. We located the well that existed in the closest proximity to the site (see the attached map, as provided by TUI – Attachment No. 1). We then placed radii, in increments of 400', off the well. TUI's well is approximately 1,200' from our closest property line (see Attachment No. 2). We researched other well locations as well, and we found no other wells closer to our site (see attached map, provided by Sussex County – Attachment No. 3).

We will also employ the appropriate 'Best Management Practices' that address the above recommendations for recharge and infiltration, through our ongoing coordination with the Sussex County Conservation District.

Stormwater Management

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. The plan review and approval as well as construction inspection will be coordinated through Sussex Conservation District. Contact Jessica Watson, Program Manager, at (302) 856-7219 for details regarding submittal requirements and fees.

It is strongly recommended that you contact Sussex Conservation District to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre and post development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion.

A Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity must be submitted to DNREC Division of Soil and Water Conservation along with the \$195 NOI fee prior to plan approval.

This site has the potential for a direct discharge to tidewater, making the project eligible for a waiver of stormwater quantity management. Furthermore, the soils on this site are excellent for recharge. We recommend eliminating the large wet pond areas in favor of Green Technology BMPs for stormwater quality management. Applying practices to mimic the pre development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components, such as maintaining open spaces, should be considered in the overall design of the project as a stormwater management technique. Open swales along the roadways would provide a significant amount of area for runoff to recharge.

Because the soil is so sandy, it is likely that the proposed wet ponds would need to be lined to maintain a permanent pool. This would be an added expense to the developer

And maintenance of a wet pond would become the burden of the homeowners' Association Canada geese problems for the site. Green Technology BMPs can be submitted so that the mature trees will not have to be removed for construction of a pond, as currently shown on the plan.

Each stormwater management facility should have an adequate outlet for release of stormwater. Facilities designed to infiltrate must have an overflow for release of runoff greater than the design volume. Any drainage conveyed onto this site from neighboring properties must be adequately conveyed through the site to the discharge point without interruption.

The pond and approximately 12 lots are impacted by the 100 year flood zone. DNREC does not have regulations prohibiting placement of the pond within the flood zone, however larger storms and reinforcement of any embankment slopes within the flood zone. Restrictions will be placed on structures located within the flood zone. Contact Mike Powell of DNREC Division of Soil and Water Conservation District for details regarding the CCR requirements.

A Certified Construction Reviewer (CCR) will be required for the site during construction. You should contact Sussex Conservation District for details regarding the CCR requirement.

Response:

Sediment and Erosion Control/Stormwater Management

We will comply with the Sussex Conservation District's Sediment and Erosion Control/Stormwater program. The use of "Green Technology" stormwater practices will be utilized to the extent feasible and DNREC's technical assistance will be utilized.

Ponds/Nuisance Species

The stormwater management ponds within the subdivision will likely attract waterfowl like resident Canada geese and mute swans that will create a nuisance for community residents. Although small numbers of these species are enjoyed by residents, geese and swans can quickly multiply and overwhelm the area. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Ponds that remain in the subdivision plan should be landscaped to deter nuisance species. Short manicured lawns around ponds provide an attractive habitat for these species. However, native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area around ponds, are not as attractive to geese because they do not feel as safe from predators and other disturbance when their view of the area is blocked. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, resident or the homeowners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with a reduction in the number and/or problems can be minimized.

Response:

Ponds/ Nuisance Species

There are new technologies available to reduce the impact of said nuisance species, including the measures listed above. We will attempt to include these technologies into the pond designs.

Revegetation

DNREC requests that no invasive species be used in the revegetation of disturbed areas. A list of species considered invasive in Delaware can be found on the DNHP web site, www.dnrec.state.de.us/fw/invasive.htm . DNREC recommends the use of native plants and their Botanist, Bill McAvoy can be contacted at (302) 653-2880 to assist you in developing a plant list.

Response:

Revegetation/ Landscaping

The revegetation/ landscaping plans will include only native species.

Forest

Site plans show impacts to the forested area in the south eastern corner of the project site. This particular area is adjacent to a large forested parcel, which is not slated for development activities in the foreseeable future. Clearing trees here will cause

“fragmentation” of the larger forest, resulting in a significant decrease in habitat value. The developer is strongly encouraged to preserve, and where possible, enhance forested resources on site. It is recommended that the developer and county strongly consider replanting trees along the existing buffer, generally following the 100-year floodplain. This action would require the elimination or relocation of 10-15 lots, but would increase habitat for wildlife, decrease risk of floodplain and increasing the natural ability of the land to attenuate flooding, improve air quality and provide residents with additional areas for passive recreation.

Any lands set aside for conservation purposes should be placed into a permanent conservation easement or other binding protection mechanism. These areas should be clearly marked and delineated so that residents understand their importance and so that homeowner activities do not infringe upon these areas.+

Response:

Forest

We will work to minimize impacts to the existing forested areas, thus reducing the amount of clearing required for the proposed development.

Open Space

To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that lot lines and other infrastructure (such as stormwater management ponds) be pulled out of the forest and that areas of community open space be designated along the riparian areas. Doing to will accomplish two things: it will preserve and expand the existing riparian buffers on site and its value for birds and wildlife and it will create recreational opportunities for residents by allowing them access to and views of the forest and stream.

In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces.

Open space containing forest and/or wetlands should be placed into a permanent conservation easement or other permanent protection mechanism. Conservation areas should also be demarked to avoid infringement by homeowners.

Response:

Open Space

We appreciate the comments on how to improve the wildlife habitat areas within the proposed development. Should the Sussex County Planning and Zoning Commission approve our request, we will explore these suggestions, and make changes were feasible.

All open areas, not dedicated to recreation uses, will be planted and/or revegetated with native species so as to increase habitat areas. Natural areas left undeveloped will be placed into permanent conservation easements.

Recreation

It is recommended that sidewalks be built fronting every residence and stub streets. A complete system of sidewalks will: 1) fulfill the recreation need for walking and biking facilities 2) provide opportunities for neighbors to interact in the community and 3) facilitate safe, convenient off-road access to neighboring communities, public mass transit stops, schools, stores, work etc. it is also recommended that a sidewalk along Oak Orchard Road providing safe bike and pedestrian opportunities beyond their neighborhood.

The Division of Parks and Recreation conducted a telephone survey of Delaware residents to gather information on outdoor recreation patterns and preferences as well as other information on their landscape perception. These findings are the foundation of the 2003-2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP) providing guidance for investments in needed outdoor recreation facilities. The high and moderate facility needs in Eastern Sussex County are listed below. We appreciate the inclusion of recreation opportunities in the project design and that these facilities are centrally located. Consideration should be given to incorporate some of these recreation opportunities into the project.

For additional information about the outdoor recreation priorities, contact Bob Ehemann at 739-5285.

High Priorities

Walking or Jogging Paths
Bike Paths
Fishing Areas

Moderate Priorities

Picnic Areas
Skate Facilities
Canoe/Kayak Access
Hiking Trails
Swimming Pools
Playgrounds
Soccer Fields
Tennis Courts
Power Boat Access
Baseball/Softball Fields

Response:

Recreation

The proposed development will include sidewalks on both sides of all internal streets, as well as a path along the site's frontage with Oak Orchard Road. In addition, the proposed development is anticipated to include a swimming pool and tennis courts.

Air Quality

Air pollution threatens the health of human beings and other living things on our planet. While often invisible, pollutants in the air create smog and acid rain, cause cancer or other serious health effects, diminish the protective ozone layer and the upper atmosphere, and contribute to the potential for world climate change. Breathing polluted air can have numerous effects on human health, including, respiratory problems, hospitalization for heart or lung disease, and even premature death. Some can also have effects on aquatic life, vegetation, and animals.

Once complete, vehicle emissions associated with this project are estimated to be 15.0 tons (30,084.0 pounds) per year of VOC (volatile organic compounds), 12.5 tons (24,907.5 pounds) per year of NOx (nitrogen oxides), 9.2 tons (18,377.2 pounds) per year of SO2 (sulfur dioxide), 0.8 ton (1,635.9 pounds) per year of fine particulates and 1,258.2 tons (2,516.484.5 pounds) per year of CO2 (carbon dioxide)

Emissions from electrical power generation associated with this project are estimated to be 2.4 tons (4,809.1 pounds) per year of NOx (nitrogen oxides), 8.4 tons (16,727.4 pounds) per year of SO2 (sulfur dioxide) and 1,233.6 tons (2,467,295.0 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 6.1 tons (12,134.2 pounds) per year of VOC (volatile organic compounds), 0.7 ton (1,335.1 pounds) per year of NOx (nitrogen oxides), 0.6 ton (1,108.0 pounds) per year of SO2 (sulfur dioxide), 0.7 ton (1,429.8 pounds) per year of fine particulates and 24.6 tons (49,189.4 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO2	PM2.5	CO2
Mobile	15.0	12.5	9.2	0.8	1258.2
Residential	6.1	0.7	0.6	0.7	24.6
Electric Power		2.4	8.4		1233.6
TOTAL	21.1	15.6	18.2	1.5	2516.4

The Department of Natural Resources and Environmental Control is asking that local jurisdictions consider mitigation to help resolve this issue. Mitigation might involve limiting large new developments to growth zones, focusing development to urban areas capable of providing mass transit services, requiring more energy efficient homes which

would lessen air quality impacts, and promoting walkability and bikability within and between developments and town centers.

Response:

Air Quality

As previously discussed, the proposed development will include pedestrian walkways throughout the development. In addition, the development is located within the Environmentally Sensitive Development District as established by Sussex County.

Underground Storage Tanks

There are no LUST sites located near the proposed project. However, should any underground storage tank or petroleum contaminated soil be discovered during construction, the Tank Management Branch must be notified as soon as possible. It is not anticipated that any construction specifications would be need to be changed due to petroleum contamination. However, should any unanticipated contamination be encountered and PVC pipe is being utilized, it will need to be changed to ductile steel in the contaminated areas.

Response:

Underground Storage Tanks

Should any tanks or contaminated soils be encountered during construction, we will notify the Tank Management Branch.

State Fire Marshal's Office – Contact: Duane Fox 856-5800

These comments are intended for informational use only do not constitute any type of approval from the Delaware State Fire Marshal's Office. At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

- a. **Fire Protection Water Requirements:**
 - Water distribution system capable of delivering at least 1000 gpm for hour duration, at 20 psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Assembly)
 - Where a water distribution system is proposed for single family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. (One & Two-Family Dwelling)
 - Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water main for fire hydrants and sprinkler systems.
- b. **Fire Protection Features:**
 - All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.

- Buildings greater than 10,000 sq.ft, 3-stories or more or over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR.

c. **Accessibility**

- All premises which the fire department may be called upon to protect in case of fire, and which are readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lands so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Oak Orchard Route (Rt 5) must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- If the use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.

d. **Gas Piping and System Information:**

- Provide type of fuel proposed, and show locations of bulk containers on plan.

e. **Required Notes:**

- Provide a note on the final plans submitted for review to read "All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations"
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout

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- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.delawarestatefiremarshal.com, technical services link, plan

Response:

All requirements of the Fire Marshal's office will be complied with

Department of Agriculture – Contact: Mark Davis 739-4811

As per relevant county ordinances, a forested buffer is required between the proposed subdivision and all adjacent properties in active agricultural use. In addition, a forest buffer streams, wetlands, and river that border the proposed subdivision.

The developer should consider a diverse landscape plan that uses Delaware native tree and shrub species and encourages the "Right Tree for the Right Place" concept.

Response:

As there are no adjacent properties currently in agricultural use, no such buffers are required. However, a 50-foot buffer is proposed along the tidal wetlands associated with Emily Gut.

Public Service Commission – Contact: Andrea Maucher 739-4247

Records indicate that the project is located within the public water service area granted to Tidewater Utilities under Certificate of Public Convenience and Necessity 87-WR-04.

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

If not already completed, Sussex County will need to notify the Commission of the areas to which it is providing wastewater services.

Response:

We have already entered into discussions with Tidewater Utilities regarding their providing water service to the proposed development. Similarly, we had our engineer's conduct a study of the sewer mains associated with the new Sussex County Oak Orchard Sewer District, and feel confident the new mains are sufficient to handle the proposed development. Therefore, should the Sussex County Planning Commission approve the proposed development, we will request the Sussex County Council to approve an expansion of the Oak Orchard Sewer District to include this property such that all wastewater will be treated by Sussex County.

Delaware Emergency Management Agency – Contact Don Knox 659-3362

A significant impact to public safety is foreseen by implementation of this project, due to the large number of residential units being constructed. The developer should notify the

police, fire service, and emergency medical response organization serving this portion of Sussex County, to keep them apprised all development activities. Portions of this \ property are located in the Special Flood Hazard Area inundated by the 100 and 500-year flood. It is also in an area of possible flooding from a category 1 or 2 hurricane. Routes 5 and 24 are both coastal storm evacuation routes and this development will add to the traffic volume on these routes during a coastal storm event.

Response:

All requirements associated with development and construction within the 100 and 500-year floodplains will be complied with.

Department of Education – Contact Nick Vacirca 739-4658

196 dwelling units could generate an estimated 98 additional students for the Cape Henlopen School District. Sussex County does not have school concurrence legislation at this time; however, it is recommended that the developer submit a package to the school district for informational purposes.

If the development is approved and build, please use the following information for school transportation planning. If there are homes more than 1/2 mile from the nearest public road (outside the development), developers should plan wide enough streets so that large school buses can access and turn around (without backing) from the further areas within the development site more than 1/2 mile from the nearest public road, provisions for appropriate pick-up and drop-off at the development entrance should be included.

Response:

We propose to work with the Department of Education as the approval process continues.

Sussex County – Contact Rick Kautz 855-7878

As mentioned by several State agencies at the meeting, access should be provided to the n/f Charles Clark property of 49 acres immediately to the south. The Environment Assessment and Public Facility Evaluation Report should be amended to address the PLUS comments.

The Sussex County Engineering Department states: The proposed project in outside of the Oak Orchard Sanitary Sewer District (OOSSD) and was not considered in the design of the system to be built. A connection point is not being provided for the parcel and it is not clear how the parcel proposes to receive sewer service from the OOSSD. The sewer infrastructure currently under construction was designed to serve parcels outside existing district. Sussex County has not performed any planning to serve parcels outside the

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existing boundaries. A separate sewer planning study would have to be completed

Sussex County will not consider an extension of the district boundaries and service area until the final contract for sewer construction has been awarded or until sewer

connections have started in the district.

In addition, State of Delaware law does not allow a sewer district to be expanded until 50 homes have connected in the existing district. The earliest estimated date when Sussex County Council could approve a district expansion the boundary is January 2006.

Attached is a list of steps to be completed before an expansion of sewer district boundaries can be considered. (Note: a copy was given to the applicant's representative at the PLUS meeting).

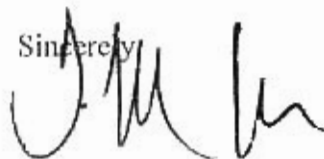
For questions regarding these comments, contact Rob Davis, Sussex County Engineering Department at (302) 855-7820.

Response:

We are aware of the current status of the site, in regards to the adjacent Oak Orchard Sanitary Sewer District. We are also aware that the County can not approve an annexation request before the sewer network is completed and 50 homes have been connected. However, following a study of the facilities currently under construction by our engineers, we feel confident that sufficient capacity will exist in the OOSDD once completed to adequately serve the proposed development of this site. Therefore, we have already submitted a formal request to Sussex County Engineering, asking for their expansion of the OOSDD once there are 50 hookups existing within the District. A copy of our request letter to Sussex County Engineering is attached for your review (Attachment No. 4).

This concludes our response to the comments provided by your office and all of the involved agencies and we appreciate your input. If you have any questions, please contact me at your convenience.

Sincerely,



Frank M. Kea

Vice President of Operations

Caldera Properties - Long Neck I, L.L.C

Enclosure

Cc: Mr. Lawrence Lank, Sussex County Planning Office